Assessing the effect of mercury pollution on cultured benthic foraminifera community using morphological and eDNA metabarcoding approaches

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Résumé en anglais	Mercury (Hg) is a highly toxic element for living organisms and is known to bioaccumulate and biomagnify. Here, we analyze the response of benthic foraminifera communities cultured in mesocosm and exposed to different concentrations of Hg. Standard morphological analyses and environmental DNA metabarcoding show evidence that Hg pollution has detrimental effects on benthic foraminifera. The molecular analysis provides a more complete view of foraminiferal communities including the soft-walled single-chambered monothalamiids and small-sized hard-shelled rotaliids and textulariids than the morphological one. Among these taxa that are typically overlooked in morphological studies we found potential bioindicators of Hg pollution. The mesocosm approach proves to be an effective method to study benthic foraminiferal responses to various types and concentrations of pollutants over time. This study further supports foraminiferal metabarcoding as a complementary and/or alternative method to standard biomonitoring program based on the morphological identification of species communities.
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